The National Broadband Plan
and Midsize Rural Telecom Providers

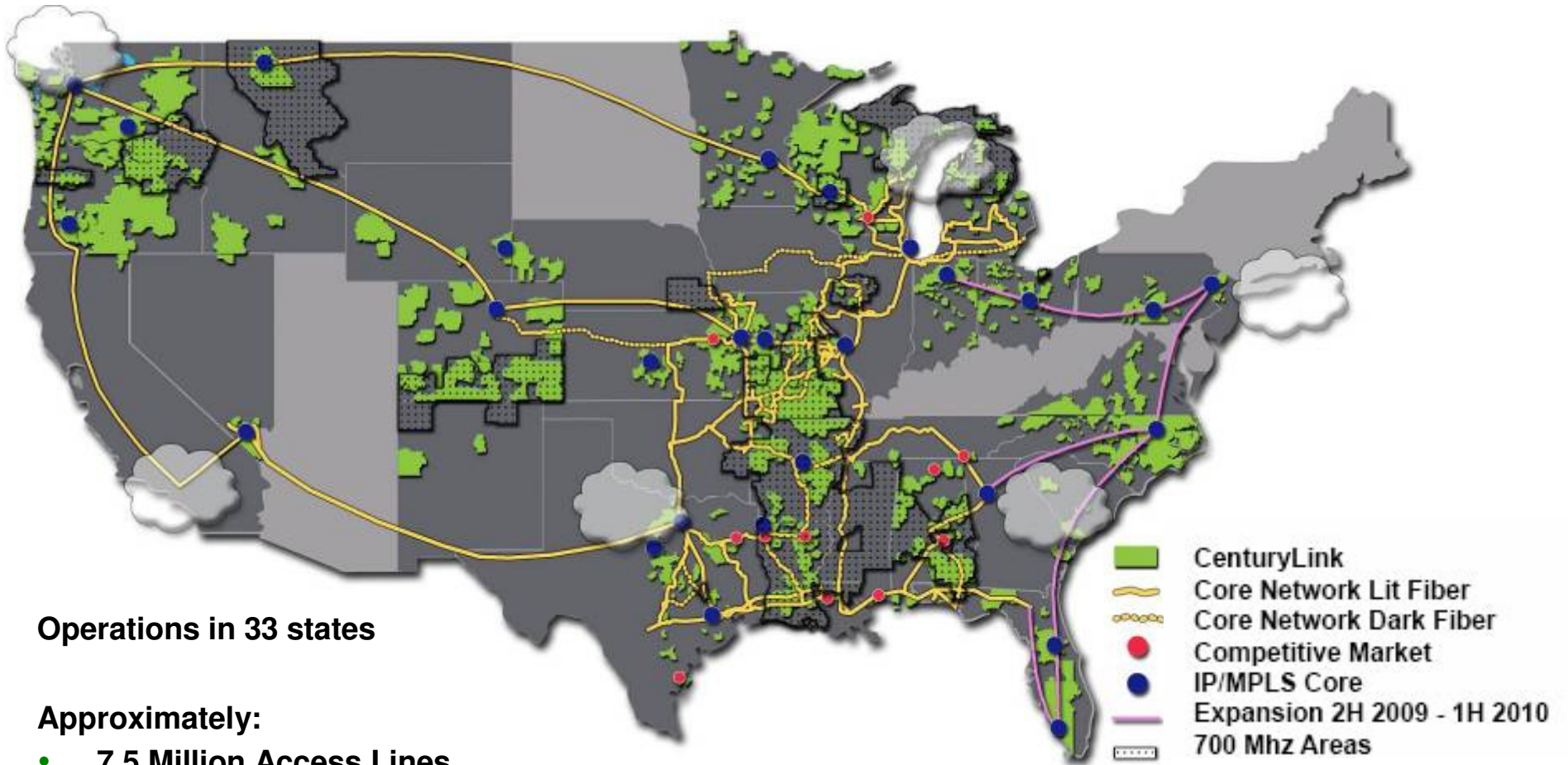# A Leading National Rural Telecom Provider

Operations in 33 states

Approximately:

- **7.5 Million Access Lines**
- **2.1 Million Broadband Customers**
- **440,000 Video Subscribers**

Legend:

- CenturyLink
- Core Network Lit Fiber
- Core Network Dark Fiber
- Competitive Market
- IP/MPLS Core
- Expansion 2H 2009 - 1H 2010
- 700 Mhz Areas
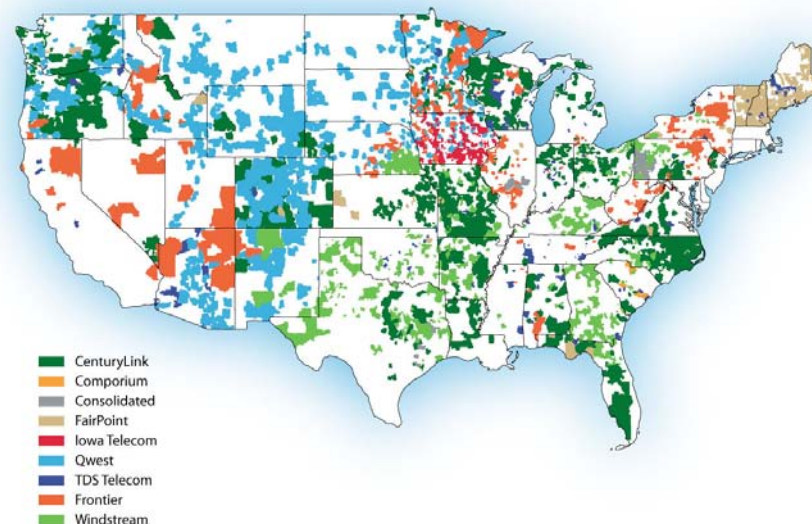
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The changing face of rural telecom

The midsize sector grows as national carriers reduce their stake in rural America:

Alltel Local	→	**Windstream**
Verizon Kentucky	→	**Windstream**
Sprint Local	→	**Embarq (CenturyLink)**
Verizon Missouri	→	**CenturyLink**
Ameritech Wisconsin	→	**CenturyLink**
GTE Arkansas	→	**CenturyLink**
Verizon (14 states)	→	**Frontier**
Verizon Hawaii	→	**Hawaiian Telcom**
Verizon NH,VT, ME	→	**FairPoint**
GTE Iowa	→	**Iowa Telecom**

itta INDEPENDENT TELEPHONE & TELECOMMUNICATIONS ALLIANCE

- CenturyLink
- Comporium
- Consolidated
- FairPoint
- Iowa Telecom
- Qwest
- TDS Telecom
- Frontier
- Windstream

Serving more than 31 million customers in 44 states

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# Rural Broadband: Population Density Matters!

- **Policy must overcome high rural costs and demographics**
  - Low customer density and low customer demand and long distances
  - High capex and backhaul costs

- **Policy must overcome challenges to and misunderstanding of access revenues and universal service funding**
  - Threat to ability to invest in and serve rural markets

Low population density in rural markets means higher costs to deliver broadband services

While Verizon* and CenturyLink serve roughly the same geographic area...

Verizon: 348
CenturyLink: 326

Sq Miles (000's)
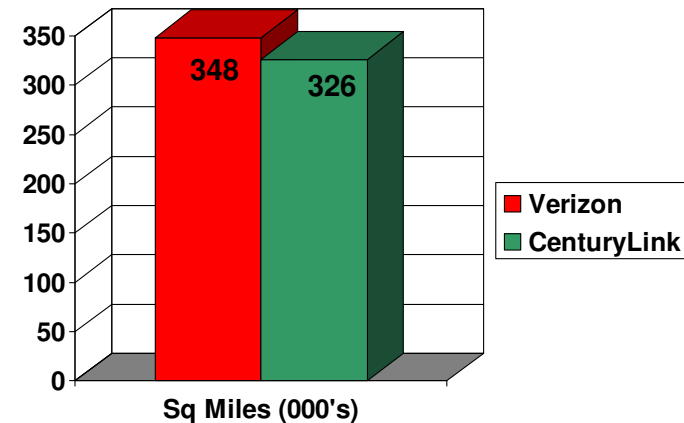
...CenturyLink areas are considerably more rural

Verizon: 94
CenturyLink: 24

Density (HH/Sq M)
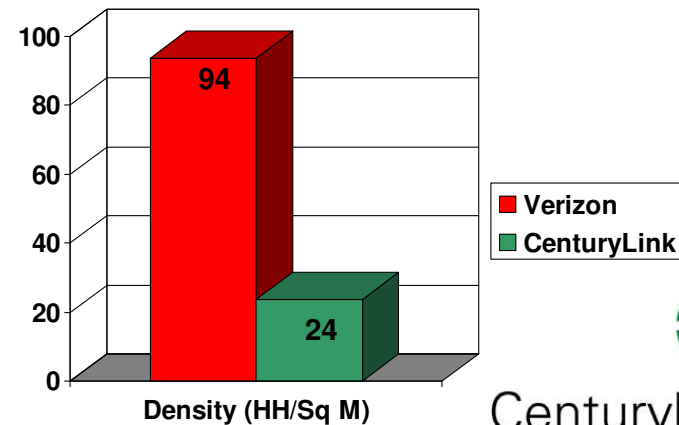
* Post Frontier Sale

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The challenge of rural broadband economics

While national broadband deployment goals are growing, the funding sources for rural networks are _declining_ for midsize carriers.

> **Declining Universal Service support:** Midsize carriers have received less support each year for the last 5 years.
>
> **Declining access charges** from arbitrage, line loss and other factors.
>
> **Line loss:** concentrated in town centers that used to subsidize the more expensive lines in outlying areas *AND* as a carrier of last resort, we must continue to support networks to homes, even if they don't subscribe.
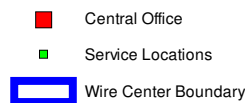
Left to current trends, rural wireline carriers will suffer a financial crisis, to the detriment of 35 million mostly rural customers.

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Funding Must Reflect Economics

Fort Meade, Florida
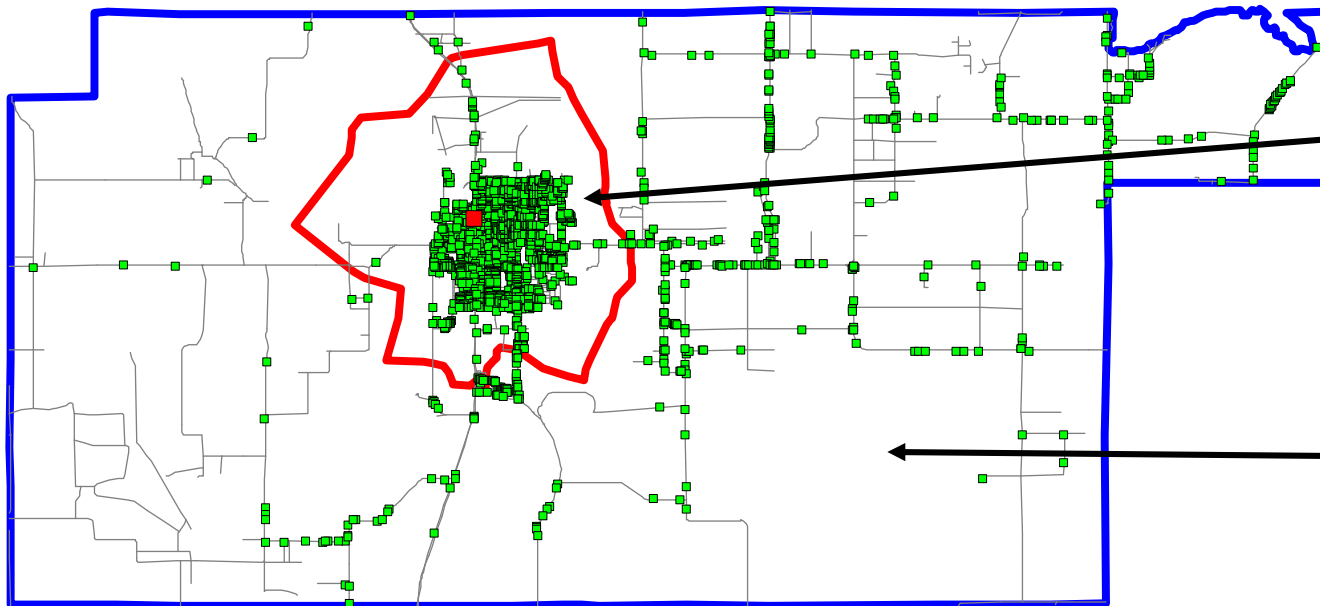
Outside City is _24%_ of exchange total at _5X_ cost of city center lines

Legend:
- ■ Central Office
- ■ Service Locations
- ▭ Wire Center Boundary

Wire Center
Total Lines Served
2,893
Investment per Line
$2,650

City Center
Total Lines Served
2,188
Investment per Line
$1,308

Outside City
Total Lines Served
705
Investment per Line
$6,820

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*Figures from FCC Synthesis Model–Illustrative Only

Wireline is Essential

Wireline broadband supports robust applications like video, telemedicine, voice and gaming, without _througput or scalability_ limitations.

Wireless networks are complementary, but they have "throughput" limitations that limit the number of high-bandwidth applications that can run simultaneously at peak usage times.

> "Just a few customers using Slingbox can overwhelm a cell site," _Christopher Guttman-McCabe of CTIA (See TR Daily, October 9)._
>
> "Because of spectrum limitations, wireless providers cannot "build their way out of" capacity constraints. Unlike wired services that can add capacity through greater build-out, constraints on expansion of network capacity are currently a reality for spectrum-based services. In the absence of significant additional spectrum allocations, wireless broadband networks face capacity constraints that are unique among broadband providers." _Comments of CTIA on National Broadband Plan Notice #1; August 31, 2009._
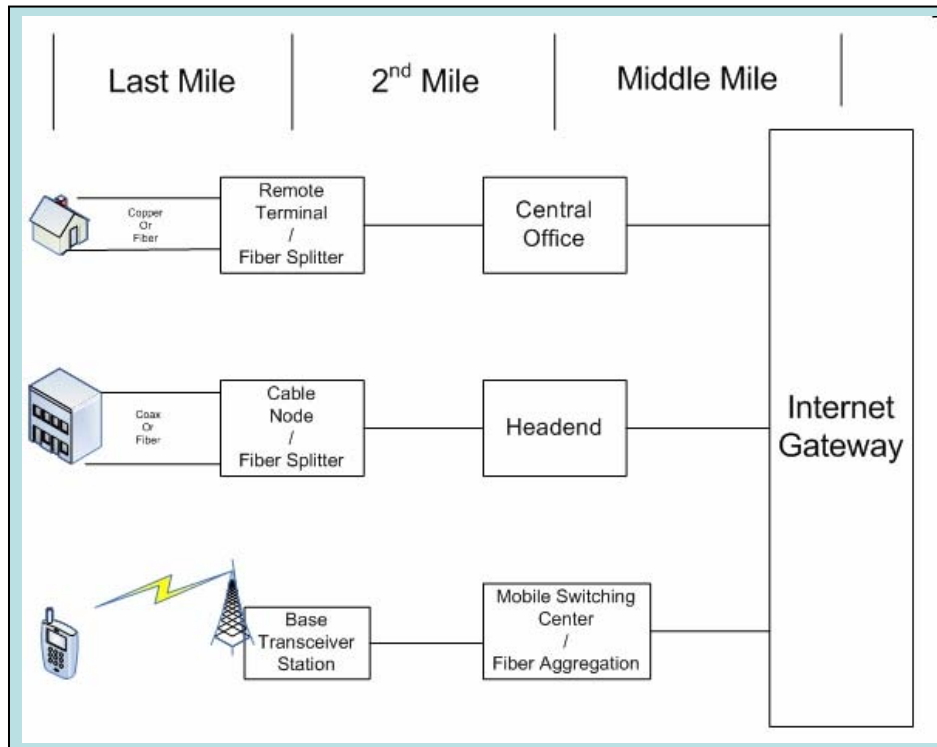
Satellite networks are ubiquitous but expensive, and latency issues mean you also need a separate phone line if you want reliable, high quality voice service.

Cable networks would require expensive and inefficient "new build" to reach unserved areas beyond town centers.

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Wireline is Essential … to wireless

Source: FCC "Blogband" entry; October 8, 2009

Symbiotic relationship: Wireline networks are the foundation for wireless broadband, especially "4G," which generally requires fiber backhaul for the "second mile."

> Wireless business plans, including "femtocell," assume a healthy incumbent wireline broadband provider.

Wholesale fiber: Wireless carriers building their own backhaul are NOT required to share it, while incumbent wireline carriers will sell to all providers.

Second mile fiber: When an incumbent telecom provider deploys "wireless backhaul" fiber to the second mile, it is also positioned with "fiber to the node" to provide 20 Mbps or more over its own wires.

Recommended policy principles

- **Broadband universal service**
  - Fully funded (mandate should not exceed support), without abandoning support for carrier of last resort voice service.
  - Granular targeting –support to the wire centers that need it – not averaged across an entire state.
- **Intercarrier compensation reform**:
  - Access charges were conceived to support rural networks, and currently enable rural broadband.
  - Access charge reform should also support rural broadband.
- **Broadband-friendly regulatory policies**
  - Minimize "net neutrality" regulations
  - Uniform, low pole attachment rates for broadband infrastructure
  - Avoid re-regulation of special access
  - Favorable tax treatment for broadband investments
- **Grants, loans and other incentives**
  - Favorable terms for second round of BTOP and BIP

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